

WHAT IS CLAIMED IS:

1. An apparatus for searching a pilot signal that is received through multiple paths in a CDMA mobile communication system, the apparatus comprising:
  - a first shift register bank that sequentially stores PN codes;
  - a second shift register bank that sequentially stores input signals;
  - a plurality of despreading means for despreading the input signals using the PN codes, wherein the plurality of despreading means despread the input signals in parallel to output despreading signals;
  - a coherent accumulator that accumulates the despreading signals;
  - energy calculation means for yielding an energy value using accumulated signals from the coherent accumulator; and
  - a non-coherent accumulator that determines an average value of the energy value for a prescribed time.
2. The apparatus of claim 1, comprising sorting means for sorting more than one average value of the energy value that are output whenever the input signals are sequentially shifted.

3. The apparatus of claim 1, wherein the PN codes and the input signals are stored as a separate I component and Q component, respectively.

4. The apparatus of claim 1, wherein the plurality of despreading means comprising:

first despreading means for despreading a first input signal among the input signals using the PN codes; and

second despreading means for despreading a second input signal among the input signals using the PN codes;

wherein the difference between the first input signal and the second signal is  $\frac{1}{2}$  chip.

5. The apparatus of claim 4, wherein the first despreading means and the second despreading means each comprise a plurality of despreading device means that are equal in number to each of the PN codes and the input signals.

6. The apparatus of claim 5, wherein the plurality of despreading device means each are coupled to receive one of the PN codes and one of the input signals, respectively.

7. The apparatus of claim 1, wherein the coherent accumulator comprises a plurality of first adders for accumulating the despread signals; and

a plurality of second adders for adding a first accumulation signal and a second accumulation signal, wherein the first accumulation is a signal determined by a first partial coherent accumulation for the PN codes and is stored, and wherein the second accumulation signal is determined by the partial coherent accumulation for next PN codes whenever corresponding next input signals are inputted.

8. The apparatus of claim 1, wherein the second shift register bank shifts the stored input signals one at a time and outputs signals corresponding to PN offsets.

9. A method for searching a pilot signal received using multiple paths in a CDMA mobile communication system, the method comprising:

storing PN codes sequentially;

storing a set of input signals sequentially from a first input signal to a last input signal;

despreading the set of input signals in parallel by using the PN codes;

outputting an accumulation signal by accumulating despread signals;

yielding an energy value of the accumulation signal and an average energy value of the energy value, wherein the average energy value is determined over a prescribed time; and

determining average mean values corresponding to PN offsets after shifting the set of input signals and repeating the despreading to yielding steps.

10. The method of claim 9, wherein the shifting shifts the set of input signals by one so that a penultimate input signal becomes the last input signal and an additional input signal becomes the first input signal, further comprising sorting the energy mean values corresponding to the PN offsets.

11. The method of claim 9, further comprising:  
storing in a buffer more than one first accumulation signal determined by partial coherent accumulation yielded where the input signals are shifted sequentially when a length of coherent accumulation is a multiple of a size of the coherent accumulation unit; and

adding a corresponding more than one stored first accumulation signal and a corresponding more than one second accumulation signal yielded whenever a new partial coherent accumulation results are yielded.

12. The method of claim 11, wherein the addition is performed corresponding to an order of storing said more than one first accumulation signals in the buffer and an order of yielding said more than one second accumulation signals.

13. The method of claim 9, wherein the despreading is executed after a prescribed number of the PN codes and the input signals are stored.

14. The method of claim 9, wherein a number of the despreading signals is determined by the coherent accumulation unit length.

15. The method of claim 8, wherein the input signals are divided into a first input signal and a second input signal and each signal has a gap of  $\frac{1}{2}$  PN chip.